

# MONTHLY WEATHER REVIEW.

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## INTRODUCTION.

This REVIEW is based on reports for June, 1893, from 3,056 regular and voluntary observers. These reports are classified as follows: 166 reports from Weather Bureau stations; 46 reports from United States Army post surgeons; 2,099 monthly reports from state weather service and voluntary observers; 31 reports from Canadian stations; 209 re-

ports through the Southern Pacific Railway Company; 505 marine reports through the co-operation of the Hydrographic Office, Navy Department; marine reports through the "New York Herald Weather Service"; monthly reports from local services established in all states and territories; and international simultaneous observations. Trustworthy newspaper extracts and special reports have also been used.

## CHARACTERISTICS OF THE WEATHER FOR JUNE, 1893.

The month was warmer than usual from the interior of the middle Atlantic and New England states over the Lake region, the upper Mississippi valley, Minnesota, and the Dakotas and thence over the middle and southern Rocky Mountain and southern plateau regions. At stations in northern New England, western New York, the upper lake region, the Dakotas, and the Southwest the month was the warmest June on record. The month was cooler than usual along the New England coast, in the Southern States east of Texas, along the Pacific coast, and over the middle and northern plateau and northern Rocky Mountain districts. At points on the New England coast, and from the north Pacific coast over the northern Rocky Mountain region the month was the coolest June on record. At stations in southern New England, eastern New York, New Jersey, eastern Pennsylvania, and in the Red River of the North Valley and the west-central states the maximum temperature was the highest ever reported for June.

Frost was reported in New England on the 8th and 29th, in central Ohio and Lower Michigan on the 7th. Frost was also noted in Minnesota, North Dakota, the middle and northern Rocky Mountain and plateau regions, and the interior of the middle and north Pacific coast districts.

Hot winds damaged crops and grass in central Nebraska on the 7th, in parts of South Dakota on the 17th and 18th, and in North Dakota on the 19th and 23d. On the latter-named date a hot southwest wind prevailed at Dodge City, Kans., and the temperature reached 106°, the highest reading on record for June at that station.

### PRECIPITATION.

The precipitation of the month was unevenly distributed. From the middle Mississippi valley to the South Carolina and Georgia coasts, from eastern Nebraska to the eastern Texas and western Louisiana coasts, in the lower valley of the Red River of the North, and along the immediate north Pacific coast there was a marked excess in monthly precipitation. At stations in southeastern Virginia and eastern

South Carolina the monthly rainfall was the greatest ever noted for June. Over portions of the middle Atlantic and New England states, the Ohio, Mississippi, and Missouri Valleys, and the Rocky Mountain and plateau regions less than the usual amount of rain fell. At stations in the lower lake region, the middle Missouri valley, New Mexico, Idaho, and eastern Washington the monthly precipitation was the least on record for June. Drought prevailed in western New York, western Maryland, northern Wisconsin, central Minnesota, and eastern South Dakota, and in Idaho and Colorado. On the ranges of central and south-central Texas, Utah, and southeastern Arizona stock suffered severely, owing to a scarcity of water and grass. Snowfall was reported only in the mountains of Colorado and at Hot Springs, Nev.

### STORMS.

The most destructive storms of the month visited Iowa, Missouri, and Kansas on the 21st. On that date a tornado swept over the section about Perry and Williamstown, Kans., killing ten persons and destroying considerable property. On the 2d two persons were killed by a tornado near Spanish Camp, Tex. The afternoon of the 4th a thunderstorm of unusual severity visited Saint Louis, Mo. Severe thunderstorms were noted most frequently in Missouri, Nebraska, Michigan, Illinois, Florida, Ohio, and New York, where they occurred on six to eight dates.

### FLOODS.

The month opened with the lower Mississippi River above the danger-line. At Cairo, Ill., the river reached a stage of 43.3 feet, 3.3 feet above the danger-line, on the 6th. At Memphis, Tenn., the maximum stage, 33.5 feet, 0.5 foot above the danger-line, was reported from the 11th to the 14th. At New Orleans, La., the river rose slowly until the night of the 23d, when a stage of 17.9 feet, the highest stage on record at that point, was reached. The most important crevasse of the month occurred in the levee in front of the Rescue Plantation, above Ascension Parish, La., on the 23d. This crevasse widened rapidly, and large areas of land in that section were flooded. The break at the Rescue Plantation caused a gradual fall in the river below that point. At New Orleans the water fell one foot from the 24th to the close of the month.